STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

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STRUCTURE SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 42258.1.1 (B-5117) F.A. PROJ. BRSTP-0210(19)

COUNTY BLADEN

PROJECT DESCRIPTION BRIDGE NO. 47 ON NC 210 OVER LAKE

CREEK AT -L- STA. 26+16

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING, AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORNING LOGS, ROCK CORES, AND SOL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C, DEPARTMENT OF TRANSFORTATION, DEDITECTINED. ENCONCERNING UNIT AT (919) 707-6850, NETHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD ROBING LOGS. ROCK CORES, OR SOIL TEST DATA ARE PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BORFHOLE, THE LABORATORY SAMPLE DATA MOD THE IN SITU IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH THE ACCORDING TO CLUMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPIETION, AND WIND, AS WELL AS OTHER NON-CLUMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETALS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FIVAL DESIGN DETALS ARE DIFFERENT, FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR BINAL DESIGN INFORMATION ON THE SPROJECT. THE DEPARTMENT DOES NOT WARRANT OR CUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OFFINION OF THE DEPARTMENT AS TO THE TYPE OF MARKETILLS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH REDEFENDENT SUBSURFACE RIVESTIGATIONS AS HE DEEMS RECESSARY TO SATISFY HOMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DEFERRING FROM THE MOST INDICATED IN THE SITE DEFERRING FROM

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JULY 2012

PERSONNEL



PROJECT REFERENCE NO. B-5117 SHEET NO. 2 OF 6

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS							
SOIL DESCRIPTION	GRADATION		ROCK DESCRIPTIO	ON	TERMS AND DEFINITIONS		
SOIL IS CONSIDERED TO BE THE UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS	WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO UNIFORM - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (A)	ALSO ROCK LINE	IS NON-COASTAL PLAIN MATERIAL THAT IF TESTED, WOU NOICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MA	MATERIAL WOULD YIELD SPT REFUSAL.	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.		
THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER, AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO STANDARD PENETRATION TEST (AASHTO 1206, ASTM D-1586). SDIL	POORLY GRADED) GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES.	SPT REFUS	L IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL STAL PLAIN MATERIAL, THE TRANSITION BETWEEN SOIL	TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.	AQUIFER - A WATER BEARING FORMATION OR STRATA.		
CLASSIFICATION IS BASED ON THE AASHTO SYSTEM, BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH	ANGULARITY OF GRAINS	DF WEATHE	ED ROCK. IALS ARE TYPICALLY DIVIDED AS FOLLOWS:		ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS.		
AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLE:	THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULA	AR, WEATHERED	SW/AW/A	THAT WOULD YIELD SPT N VALUES > 100	OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, AS SHALE, SLATE, ETC.		
VERY STAFF, GRAY, SILTY CLAY, MOST WITH INTERBEDOED FAME SAND LIVERS, HISHLY PLASTIC, A-7-6	SUBANGULAR, SUBROUNDED, OR ROUNDED.	ROCK (WR)	BLOWS PER FOOT IF TESTED.		ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE		
SOIL LEGEND AND AASHTO CLASSIFICATION GENERAL GRANULAR MATERIALS SILT-CLAY MATERIALS ORGANIS MATERIALS	MINERALOGICAL COMPOSITION MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KADLIN, ETC, ARE USED IN DESCRI	UPTIONS CRYSTALLINE	FINE TO COARSE GRAIN IGNEOUS WOULD YIELD SPT REFUSAL IF TO	AND METAMORPHIC ROCK THAT ESTED. ROCK TYPE INCLUDES GRANITE,	GROUND SURFACE.		
GENERAL GRANULAR MATERIALS SILT-CLAY MATERIALS ORGANIC MATERIALS (≤ 35% PASSING "200) CRANIC MATERIALS	WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.	NOCK NOW	GNEISS, GABBRO, SCHIST, ETC.		CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.		
GROUP A-1 A-3 A-2 A-4 A-5 A-6 A-7 A-1, A-2 A-4, A-5 A-6 A-7	COMPRESSIBILITY	NON-CRYSTALL ROCK (NCR)	NE SEDIMENTARY ROCK THAT WOULD	YEILD SPT REFUSAL IF TESTED. ROCK TYPE	<u>COLLUVIUM</u> ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.		
CLASS. A-1-a A-1-b A-2-4 A-2-5 A-2-6 A-2-7	SLIGHTLY COMPRESSIBLE LIOUID LIMIT LESS THAN 31 MODERATELY COMPRESSIBLE LIOUID LIMIT EQUAL TO 31-5	50 COASTAL PLAI		NTED INTO ROCK, BUT MAY NOT YIELD	CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL		
SYMBOL 000000000000000000000000000000000000	HIGHLY COMPRESSIBLE LIQUID LIMIT GREATER THAN	N 50 SEDIMENTARY (CP)	SHELL BEDS, ETC.	DES LIMESTONE, SANDSTONE, CEMENTED	LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.		
7. PASSING SILT- MUCK,	PERCENTAGE OF MATERIAL ORGANIC MATERIAL GRANULAR SILT - CLAY		WEATHERING		DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.		
10 508 MX 58 HX 51 MN SDILS SDILS SDILS SDILS SDILS	ORGANIC MATERIAL SOILS SOILS OTHER MATERI TRACE OF ORGANIC MATTER 2 - 3% 3 - 5% TRACE 1 -	I FRESH	ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW	SLIGHT STAINING, ROCK RINGS UNDER	DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE		
	LITTLE ORGANIC MATTER 3 - 5% 5 - 12% LITTLE 10 -	- 20%	HAMMER IF CRYSTALLINE. RDCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS	MAY SHOW THIN CLAY COATINGS IF OPEN.	HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF		
PLOUID LIMIT 48 HX 41 HX 46 HX 41 HX 46 HX 41 HX 46 HX 41 HX 50 JLS WITH PLASTIC INDEX 6 MX NP 18 HX 18 HX 11 HX 18 HX 18 HX 11 HX 11 HX LITTLE OR HIGHLY	MODERATELY ORGANIC 5 - 10% 12 - 20% SOME 20 - HIGHLY ORGANIC >10% >20% HIGHLY 35%	AND AROVE (V SLIJ)	CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTL OF A CRYSTALLINE NATURE.	LY. ROCK RINGS UNDER HAMMER BLOWS IF	THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.		
GROUP INDEX 0 0 0 4 HX 8 MX 12 HX 16 MX No HX MODERATE ORGANI	GROUND WATER		ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLOR		FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.		
USUAL TYPES STONE FRACE. FINE SILTY OR CLAYEY SILTY CLAYEY ORGANIC	▼ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING	(SL1.)	1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID CRYSTALS ARE DULL AND DISCOLORED, CRYSTALLINE RO		FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.		
MATERIALS SAND SAND BRAVEL AND SAND SUILS SUILS	STATIC WATER LEVEL AFTER 24 HOURS	MODERATE	SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION A	AND WEATHERING EFFECTS. IN	FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM		
GEN. RATING AS A EXCELLENT TO GOOD FAIR TO POOR POOR UNSUITAGE	LE PW PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA	(MODY)	GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISC DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFIC		PARENT MATERIAL.		
SUBGRADE P1 OF A-7-5 SUBGROUP 1S ≤ LL - 30 ;P1 OF A-7-6 SUBGROUP 1S > LL - 30	SPRING OR SEEP		WITH FRESH ROCK.	A DESCRIPTION DOORS ALL FREDCHES DIS.	FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.		
CONSISTENCY OR DENSENESS	MISCELLANEOUS SYMBOLS	SEVERE	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION	N. ROCK SHOWS SEVERE LOSS OF STRENGTH	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN		
PRIMARY SOIL TYPE COMPACTNESS OR RANGE OF STANDARD RANGE OF UNCONFINED	ROADWAY EMBANKMENT (RE) SPT DIT TEST BORING WITH SOIL DESCRIPTION SPT MT	TEST BORING	AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROD IF TESTED, WOULD YIELD SPT REFUSAL	CK GIVES 'CLUNK' SOUND WHEN STRUCK.	THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.		
CONSISTENCY (N-VALUE) (TONS/FT2)	- I II	W/ CORE SEVERE	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. RO	OCK FABRIC CLEAR AND EVIDENT BUT REDUCED	LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO		
GENERALLY VERY LOOSE 4 TO 10	SOIL SYMBOL AUGER BORING	SPT N-VALUE (SEV.)	IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALEXTENT, SOME FRAGMENTS OF STRONG ROCK USUALLY P		ITS LATERAL EXTENT.		
MATERIAL MEDIUM DENSE 10 TO 30 N/A	ARTIFICIAL FILL (AF) OTHER - CORE BORING REF	F)— SPT REFUSAL	JF TESTED, YJELDS SPT N VALUES > 100 BPF		LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS, MOTTLING IN		
(NON-COHESIVE) DENSE 30 TO 50 VERY DENSE >50	THAN ROADWAY EMBANKMENT INFERRED SOIL ROLINDARY MONITORING WELL	VERY SEVERE (V SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. RO THE MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, W	WITH DNLY FRAGMENTS OF STRONG ROCK	SDILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.		
VERY SOFT (2) (0.25) GENERALLY SOFT 2 TO 4 0.25 TO 0.50	DIFFOURTED		REMAINING, SAPROLITE IS AN EXAMPLE OF ROCK WEATH		PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.		
SILT-CLAY MEDIUM STIFF 4 TO 8 0.5 TO 1.0	INFERRED ROCK LINE A FIELDMENT INSTALLATION	COMPLETE	ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE		RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.		
MATERIAL STIFF 8 TO 15 1 TO 2 (COHESIVE) VERY STIFF 15 TO 30 2 TO 4	SLOPE INDICATOR INSTALLATION		SCATTERED CONCENTRATIONS. DUARTZ MAY BE PRESENT ALSO AN EXAMPLE.		ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND		
HARD >30 >4	25/025 DIP & DIP DIRECTION OF ROCK STRUCTURES CONE PENETROMETER TEST		ROCK HARDNESS		EXPRESSED AS A PERCENTAGE.		
TEXTURE OR GRAIN SIZE		VERY HARD			SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.		
U.S. STD. SIEVE SIZE 4 10 40 60 200 270 OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053	● SOUNDING ROD		SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.		SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND		
COAPGE EINE	ABBREVIATIONS	HARD	CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIF TO DETACH HAND SPECIMEN.	FFICULIT. MAKU HAMMEK BLUWS KEGUIKED	RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.		
BOULDER COBBLE GRAVEL SAND	BT - BORING TERMINATED MICA MICACEOUS WEA N		CAN BE SCRATCHED BY KNIFE OR PICK, GOUGES OR GR		SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR		
GRAIN MM 305 75 2.8 0.25 0.05 0.005		NIT WEIGHT HARD RY UNIT WEIGHT	EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. H BY MODERATE BLOWS.	HAND SPECIMENS CAN BE DETACHED	SLIP PLANE.		
SIZE 1N. 12 3	CSE CDARSE ORG DRGANIC	MEDIUM	CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FI CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH		STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) DF A 140 LB. HAMMER FALLING 30 INCHES REDUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH		
SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE FIELD MOISTURE COURT FOR STATE ACCOUNTS DESCRIPTION	DPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC S - BUL	LK	PDINT OF A GEOLOGIST'S PICK.		A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER, SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.		
SOIL MOISTURE SCALE FIELD MOISTURE GUIDE FOR FIELD MOISTURE DESCRIPTION		SPLIT SPOON SOFT SHELBY TUBE	CAN BE GROVED OR GOUGED READILY BY KNIFE OR PIC FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERAT		STRATA CORE RECOVERY ISREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH		
- SATURATED - USUALLY LIQUID; VERY WET, USUALLY	FOSS FOSSILIFEROUS SLI SLIGHTLY RS - RC	ROCK	PIECES CAN BE BROKEN BY FINGER PRESSURE.		OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROO) - A MEASURE OF ROCK QUALITY DESCRIBED BY		
(SAT.) FROM BELOW THE GROUND WATER TABLE	FRAGS FRAGMENTS W - MOISTURE CONTENT CBR - C	CALIFORNIA BEARING SOFT	CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READ OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PF	DILY WITH POINT OF PICK, PIECES I INCH RESSURE, CAN BE SCRATCHED READILY BY	TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE		
PLASTIC SEMISOLID; REDUIRES DRYING TO SEMISOLID; REDUIRES	HI HIGHLY V - VERY EQUIPMENT USED ON SUBJECT PROJECT	RATIO	FINGERNAIL, ACTURE SPACING	BEDDING	IDPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.		
(PI) PLASTIC LIMIT				RM THICKNESS	BENCH MARK: BM-I: SPIKE IN BASE OF 18" HICKORY AT -BL- STA. 13+49, 49' LT		
OM OPTIMUM MOISTURE - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTUR	DRILL UNITS: ADVANCING TOOLS: HAMMER TY	MANUAL VERY WID	MORE THAN 10 FEET VERY THI	GICKLY BEDDED > 4 FEET BEDDED 1.5 - 4 FEET			
OM OPTIMUM MOISTURE - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTUR SL SHRINKAGE LIMIT	MOBILE B-		Y CLOSE 1 TO 3 FEET THINLY B	BEDDED 0.16 - 1.5 FEET	ELEVATION: 29.48 FT.		
- DRY - (D) REDUIRES ADDITIONAL WATER TO	6' CONTINUOUS FLIGHT AUGER CORE SIZE	VEDV CLD	SE LESS THON DIS SEET THICKLY	LAMINATED 0.008 - 0.03 FEET	NOTES:		
HITHIN OF INDISTORE		_	INDURATION	LAMINATED < 0.008 FEET			
PLASTICITY	CME-45C HARD FACED FINGER BITS	FOR SEDIMENT	ARY ROCKS, INDURATION IS THE HARDENING OF THE MATE	ERIAL BY CEMENTING, HEAT, PRESSURE, ETC.	· · ·		
PLASTICITY INDEX (PI) DRY STRENGTH NONPLASTIC 0-5 VERY LOW	X CME-550 TUNG,-CARBIDE INSERTS -H_		ARLE RUBBING WITH FINGER FR	REES NUMEROUS GRAINS;	·		
LOW PLASTICITY 6-15 SLIGHT	X CASING W/ ADVANCER HAND TODI	DLS ₁	GENTLE BLOW BY HAMMER	R DISINTEGRATES SAMPLE.			
MED. PLASTICITY 16-25 MEDIUM HIGH PLASTICITY 26 OR MORE HIGH		•	ERATELY INDURATED GRAINS CAN BE SEPARATI BREAKS EASILY WHEN HIT	ED FROM SAMPLE WITH STEEL PROBE; I WITH HAMMER.			
COLOR	The state of the s	D AUGER		TO SEPARATE WITH STEEL PROBE:	·		
DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY).	CORE BIT	INDING ROD INC IE SHEAR TEST	DIFFICULT TO BREAK WIT	TH HAMMER.			
MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.		EXT	REMELY INDURATED SHARP HAMMER BLOWS RE SAMPLE BREAKS ACROSS	REDUIRED TO BREAK SAMPLE; GRAINS.			
					REVISED 09/23/09		





